



“Broadband is the electricity of the future...”

Governor Terry Branstad

September 3, 2013

Iowa Science, Technology, Education, Engineering, & Mathematics Advisory Council Broadband Committee

12/1/2013

Initial Action Recommendations

Background:

On September 3, 2013, [Iowa Governor Terry Branstad](#) announced the State of Iowa's new broadband initiative, [Connect Every Iowan](#). The goal of Connect Every Iowan is to position Iowa as the top broadband-connected Midwestern state, ready to support new businesses while providing the highest quality education and healthcare services available.

As part of the Connect Every Iowan Initiative, Governor Branstad charged Iowa's [Science, Technology, Engineering, & Mathematics \(STEM\) Advisory Council's](#) Broadband Committee with the creation of a broadband expansion plan for Iowa, with an initial timetable that included delivery of the policy recommendations contained in this report by no later than December 1, 2013.

Governor Branstad has noted that "Broadband is the electricity of the future and it's going to be critically important to economic progress. Broadband is also almost certainly the way education of the future is going to be delivered and we want to make sure that Iowa is on the cutting edge of this very important technology and that we don't have anyone left out."

Additionally, Iowa Lt. Governor Kim Reynolds has stressed that "The expansion of Iowa's broadband network will be achieved through public-private partnerships. Part of a successful task force is making sure all stakeholders are at the table as we walk through what we need to do to implement changes. All stakeholders will have a seat at the table on this task force, so they will have the opportunity to sit down and discuss how we provide and expand broadband access throughout the state of Iowa in a way that benefits everyone."

It is in this spirit that the Iowa STEM Advisory Council Broadband Committee has worked for the past three months to review Iowa's current broadband assets, capacities, and needs. This Committee's goals were to identify strengths and growth areas. In pursuit of those goals, the STEM Advisory Council Broadband Committee presents the initial policy recommendations contained in the report below, which seek to address some of the most pressing needs regarding Iowa's broadband access, adoption, and use.

/s/

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Assessments and Recommendations

Assessment 1: Iowa must use quality data and standards to measure its broadband efforts

A well-known maxim is, “You cannot manage what you do not measure.” The Broadband Committee believes Iowa should work to increase broadband access, adoption, and use by residents and businesses in Iowa. In order to develop clear goals and evaluate its efforts, Iowa must use up-to-date and granular data to provide the necessary metrics to benchmark its current broadband landscape and evaluate the elements of Connect Every Iowan.

There are several resources from which Iowa can draw useful data, including broadband availability information by census block and Iowa-specific residential and business broadband adoption data from [Connect Iowa](#); the [State-by-State Broadband Report from TechNet](#); federal agency research by the Federal Communications Commission or the National Telecommunications and Information Administration (NTIA); or independent network speed information from organizations like Akamai.

For instance, broadband availability data from Connect Iowa indicates that, while over 98% of Iowa households can access broadband at its most basic speed (768Kbps download/200 Kbps upload), statewide availability begins to sharply decrease at 6 Mbps download/1.5 Mbps upload (with only 82% of Iowans able to access broadband at these speeds). And only 47% of Iowans can access broadband at speeds of 50 Mbps or greater.¹ These current access speeds are wholly insufficient capacities for the basic needs of Iowans today.

Connect Iowa’s residential adoption survey research tells us that only 71% of Iowa households have adopted broadband, indicating a real and significant digital divide in Iowa, which is more pronounced among at-risk demographic groups like low-income households (adoption rate = 46%), rural households (adoption rate = 66%), or African-American households (adoption rate = 56%).² Because many of our broadband goals are directly related to economic development, it is also useful to have Iowa-specific business broadband adoption data – Connect Iowa’s data tells us that 23,000 Iowa businesses currently don’t use broadband service.³

¹ [Broadband availability data collected as part of November 2013 Iowa broadband dataset](#) by Connect Iowa.

² 2012 Connect Iowa Residential Technology Assessment.

³ 2013 Connect Iowa Business Technology Assessment.

These data can be compared to complementary sources within the public and private sectors for the purposes of deeper understating and quality assurance. For instance, the NTIA conducted a national survey released in 2011 that estimated the residential broadband adoption rate at 67.5%.⁴ Given NTIA's margin of error in its survey methodology, this figure is similar enough to the Connect Iowa data to be complementary.

TechNet, a national non-profit technology advocacy organization, compiled in 2012 its latest State Broadband Index, which ranked states according to broadband adoption (using 2011 NTIA data), network speeds (using peak and average network speed data from Akamai and data on the percent of households passed by fiber optic broadband infrastructure via the Fiber to the Home Council), and "economic structure," which measures the percentage of jobs in each state that could be considered "as information and communications technology industries," and research that led to an estimate of applications development jobs in each state. Currently Iowa ranks 11th out of 12 Midwestern states on the TechNet State Broadband Index, behind neighboring states such as Nebraska, Minnesota, Missouri, and Illinois.

RECOMMENDED ACTION 1:

These criteria (broadband adoption rates; network speeds; and an analysis of the impact broadband is having on Iowa's economy) are an excellent index upon which Iowa can evaluate its efforts moving forward. We also believe affordability is an important metric for the State to track. The Committee recommends using these criteria, and allocating resources to maintain within Iowa the capacity to collect and analyze the data for these criteria, which should be collected from the most recent and most granular resources available on a continuing basis.

⁴ ["Digital Nation – Expanding Internet Usage." NTIA. February 2011.](#)

Assessment 2: Establish a coordinating body and council of information and accountability surrounding current availability and adoption initiatives in the State

The STEM Broadband Committee believes that public-private partnerships are necessary to advance Iowa's broadband landscape. Public-private partnerships, by definition, include many stakeholders. At a state and local level, many of our broadband stakeholders are involved in separate efforts, initiatives, and discussions about how to positively impact their state, their region, or their community. These activities contain a wealth of best practices information on strategies and tactics that can have a demonstrable and measureable impact on broadband access, adoption, or uses.

In addition, other states within the United States and in the Midwest have ongoing broadband projects and initiatives that, either through success or failure, may yield valuable insight or best practices that could be leveraged here in Iowa and its communities.

To capitalize on these information resources, the Committee would recommend that the state establish and promote a best practices clearinghouse of information surrounding current availability and adoption initiatives in Iowa.

This clearinghouse would work to coordinate existing resources and services, and utilize existing state broadband stakeholders for support, such as the STEM Advisory Council Broadband Committee, the Iowa Communications Network, and Connect Iowa.

The Iowa Broadband Best Practices Clearinghouse should also work with federal agencies, such as the FCC, NTIA, and U.S. Department of Agriculture, to incorporate federal activities (like the creation of the Public Safety Broadband Network by the FirstNet Authority) into the clearinghouse. The IBBCP could also explore the creation of standing resources for stakeholders such as a Dig Once database, or a fiber optic database. It should also work to catalog the status and impact of broadband projects funded by the American Recovery and Reinvestment Act, as well as the impact of FCC changes to the US Universal Service Fund, on Iowa's broadband landscape.

RECOMMENDED ACTION 2:

The State of Iowa should streamline the State's Broadband program by focusing responsibility in the Office of The Chief Information Officer (OCIO) agency or another existing agency in the State to coordinate Iowa's broadband public-private partnership initiative; to ensure other agency programs are aligned, to be accountable, to resolve issues, to further partnerships, to develop the clearinghouse, and report on progress to connect every Iowan. Representation specifically from the responsible office should be added to the Iowa Telecommunications and Technology Commission (ITTC), the State Interoperability Board, and the FirstNet Broadband Program. Further, the State should align the already established Technology Advisory Council with the Broadband program. The office responsible should include the telecommunications industry, K-12, and others.

Assessment 3: Iowa and its broadband leaders should encourage continued dialogue and discussion related to repurposing portions of the Iowa Communications Network (ICN)

The [Iowa Communications Network \(ICN\)](#) is a source of fiber optic capacity for which the State of Iowa must find the highest and best use. To identify and achieve that use, the Committee recommends that the State enact legislation that amends Iowa Code chapter 8D in a manner to accomplish the following:

- Enable the Iowa Telecommunications and Technology Commission (ITTC) to identify a portion of the Iowa Communications Network's unused bandwidth for use as a wholesale asset;
- Enable the ITTC to enter into agreements with private providers allowing them access to this identified wholesale asset for their use. This access should facilitate all of the following:
 - Support the private providers' access into unserved or underserved areas;
 - Provide new sources of revenue to private providers; and
 - Significantly reduce the level of capital investment that private providers would be required to expend to replicate existing and available infrastructure.
- Ensure that current authorized users of the ICN continue to receive access to a secure data network through the ICN as currently provided.

RECOMMENDED ACTION 3:

Repurpose portions of the ICN to identify and segment bandwidth from the State's needs now and into the future from bandwidth that can be made available to our industry partners, in conjunction with the responsibility in Recommended Action 2. Support the legislative changes to Iowa Code to allow the repurposing of the ICN to support the State's partnership with the private sector.

Assessment 4: Iowa should establish a structure within which it can give incentives to broadband providers that serve the specific needs of the providers, within specified guidelines

Through the comments it has received, the Iowa broadband availability data that is available, and the direction toward subsidizing broadband network deployment taken by the FCC in recent years, it is clear that areas in Iowa currently unserved or underserved by broadband include areas in which a return on investment using traditional financial funding models may not be feasible.

In addition, the State of Iowa is not seeking basic broadband availability for its citizens and businesses, but a robust and ultra high-speed broadband infrastructure that can jump-start innovation and provide for the current and future needs of its citizens, businesses, healthcare sector, and research institutions.

To help achieve these availability goals, the Committee recommends that Iowa establish a structure within the state's broadband entity that can, within specified guidelines, provide incentives for broadband deployment to applying broadband providers.

This broadband deployment incentive structure could also examine policy recommendations within other states or at the federal level that could apply to Iowa.

RECOMMENDED ACTION 4:

Direct the office of responsibility in Recommended Action 2 to include attention to backbone, middle mile, and last mile infrastructure, and should incorporate tax-code based incentives, state loan guarantees or grants, and/or regulatory reform efforts to reduce operating expenses. And specifically, tax incentives for build-outs, loans/grants for investments, and regulatory reforms that may include uniform siting and permitting, dig-once programs.

Assessment 5: Iowa should expand and encourage efforts to increase the broadband adoption rate and support for residential and business users

With just under one-third of Iowa households not using broadband that is already available, and 23,000 businesses in Iowa not utilizing high-speed Internet services to drive growth and create jobs, the Committee recommends that the State of Iowa expand and encourage efforts within the state to increase broadband adoption rates.

Broadband is a tool that must be used to bring benefits and increase quality of life. In addition, access to and the ability to use technology is an essential building block to the creation of a skilled workforce that is required by today's economy.

Knowing that there are significant barriers to broadband adoption in Iowa, particularly among at-risk populations (such as senior citizens) and small businesses, the state should utilize a variety of tactics to attack these barriers.

RECOMMENDED ACTION 5:

Direct the area of responsibility in Recommended Action 2 to include community strategic technology planning such as the Connected Community Engagement Planning process, an existing element of the Connect Every Iowan Initiative, digital literacy training, job and workforce skills training, tax credits to corporations for the donation of broadband-enabled devices, support for community institutions functioning as public computing and training centers, and it should operate through a public-partnership framework.

Assessment 6: The State of Iowa should grant further latitude to school districts on using school infrastructure funding

The FCC is currently in the early phase of reforming the section of the Universal Service Fund known as the “E-Rate Program” to more robustly fund broadband connectivity at schools and libraries. The Committee recommends that Iowa establish the capacity for Iowa schools to act early on broadband availability through increased latitude of school infrastructure funding for network expansion or upgrades.

RECOMMENDED ACTION 6:

The State of Iowa should craft and enact legislation to adjust the Iowa Code to allow schools to leverage existing funding to directly support Broadband access for students in the schools.

Appendices:

- 1) [Press Release](#) from the Office of Iowa Governor Terry Branstad announcing the Connect Every Iowan Initiative
- 2) [Press Release](#) from Connect Iowa announcing the Connect Every Iowan Initiative
- 3) [Iowa STEM Innovation Proposal for 2013-14 regarding broadband](#)
- 4) Catalog of Iowa STEM Advisory Council Broadband Committee information and artifacts, including hyperlinks to the Committee Roster, meetings/agendas of the Committee, public feedback and comments received by the Committee, relevant documents and links, and contact information
- 5) Iowa Broadband Availability Map showing availability of broadband at 10 Mbps download or greater
- 6) Iowa Broadband Availability Map showing availability of broadband at 25 Mbps download or greater
- 7) Iowa Broadband Availability Map showing availability of broadband at 50 Mbps download or greater
- 8) Iowa Broadband Availability [Map showing Underserved Households in Iowa](#)
- 9) Iowa Broadband Availability [Map showing the average residential broadband download speed in Iowa by county](#)
- 10) Iowa Map showing broadband costs per megabit per month
- 11) Iowa Map showing demand for more bandwidth
- 12) Connect Iowa Broadband Adoption Research showing residential broadband adoption in Iowa; barriers to broadband adoption in Iowa; and business broadband adoption data in Iowa
- 13) Iowa STEM Advisory Council Internet Bandwidth Presentation – 3/5/2013
- 14) Iowa School Finance Information Services School Internet Bandwidth Survey